

Appl. No. 09/982,271
Amdt. Dated September 14, 2005
Reply to Office Action of 8/14/05

Docket No. CM01968G
Customer No. 22917

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A correlation method comprising the steps of:
receiving a composite signal sequence comprising transmissions from a plurality of source devices;
generating a re-ordered re-ordering the signal composite signal sequence based upon a predetermined order by directly applying a reordering function to the received composite signal sequence; and
directly performing a transform on the re-ordered composite signal sequence.
2. (currently amended) The method of claim 1 wherein the transform is selected from a group consisting of: Fast Hadamard Transform (FHT), Fast Walsh Transforms, and Fast Walsh-Hadamard Transform.
3. (currently amended) The method of claim 1 wherein the received composite signal sequence comprises at least one m-sequence.
4. (original) The method of claim 3 wherein the predetermined order is based on a generator polynomial of at least one m-sequence.
5. (currently amended) The method of claim 1 wherein the received composite signal sequence comprises at least one specially augmented m-sequence.
6. (original) The method of claim 5 wherein the predetermined order is based on a generator polynomial of at least one specially augmented m-sequence.

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7. (original) The method of claim 1 wherein a dimension of the transform is equivalent to a number of available channels.

8. (original) The method of claim 1 wherein a dimension of the transform is different than a number of available channels.

9. (currently amended) A device comprising:

a receiver for receiving elements of a composite signal sequence comprising transmissions from a plurality of source devices;

a state generator for generating a sequence of addresses to translate between a pseudonoise sequence and a Walsh sequence, the sequence of addresses corresponding to a reordered composite signal sequence generated by directly applying a reordering function to the received composite signal sequence; and

a storage medium, coupled to the receiver and the state generator, for storing each element of the reordered composite signal sequence at a given address according to the sequence of addresses; and

a processor, coupled to the storage medium, for directly performing a transform on at least a portion of the elements of the reordered composite signal sequence stored in the storage medium.

10. (original) The device of claim 9 wherein the state generator comprises a linear feedback shift register.

11. (original) The device of claim 10 wherein the linear feedback shift register is a Fibonacci sequence generator.

12. (original) The device of claim 9 wherein the state generator is a second storage medium.

13. (original) The device of claim 9 wherein the pseudonoise sequence is a specially augmented m-sequence.

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14. (cancelled)

15. (currently amended) The device of claim 9 ~~claim 14~~ wherein the transform is selected from a group consisting of: Fast Hadamard Transform (FHT), Fast Walsh Transforms, and Fast Walsh-Hadamard Transform.

16. (original) The device of claim 9 wherein the receiver comprises an analog-to-digital converter.

17. (new) The method of Claim 1, wherein the received composite signal sequence comprises only quasi-orthogonal sequences.